Executive Summary

Contents

The term "SATCOM" includes both military and commercial satellite communications because a proper mix of both is required to support Army requirements.

The most important Army requirement for the warfighter is assured access to satellite resources.

OVERVIEW

The 2000 Army Satellite Communications (SATCOM) Architecture identifies satellite communications architectures needed to support Army Operations from the present out to an objective timeframe of 2015-2030. The term "SATCOM" includes both military and commercial satellite communications because a proper mix of both is required to support Army requirements. The Army needs SATCOM to provide range extension worldwide, from the foxhole back to the sustaining base. SATCOM systems are joint assets which are allocated for use according to priority.

The Army SATCOM architecture evolves in response to lessons learned, future direction, policies and doctrine, technology, and funding. Meeting the challenges and needs of the future will require that Army forces be equipped and trained to conduct simultaneous, seamless, and continuous operations. Requirements must be constantly reviewed and updated to reflect current and future needs. The most important Army requirement for the warfighter is assured access to satellite resources.

Space is the Army's loftiest military "high ground." Historically, whoever held and used the high ground had a significant advantage over his adversaries. This age-old principle is still particularly true today in our fighting the information war from space. The use of space as a strategic location to emplace powerful packages of high technology offers the Army an array of enhanced information capabilities on the battlefield. These space-based capabilities include communications, positioning/navigation data, early warning, weather, environmental monitoring, surveillance, and targeting capabilities. Soldiers today are using many space products, often without even being aware of it. *The effective use of space systems and products is critical to successful Army global operations.*

SPACE SYSTEMS AND SATELLITES

A space system has three parts: a space segment, a control segment, and a ground terminal segment. The space segment consists of the actual satellites and their components. The control segment entails the ground facilities responsible for controlling the operation of the overall satellite communications system. The ground terminals transmit and receive signals to and from the satellite. Antennas located on the satellites and on the ground terminals receive and transmit microwave signals.

Satellites are designed to operate reliably and dependably throughout their expected operational lifespans. Satellites generally have a projected lifetime of ten or more years. New generation satellites that were launched in 1999 can have estimated lifetimes of 12-17 years. Communications satellites are launched and maneuvered into their proper orbits by rockets. Today the overwhelming percentage of communication satellites are maintained in geosynchronous orbit approximately 22,300 miles above the earth. There are many satellites in other kinds of orbits that perform specific functions or which cover areas of the earth in ways that cannot be done with geosynchronous satellites.

USE OF SINGLE CHANNEL SATCOM

The Army uses single channel SATCOM to support tactical battlefield voice and data range-extension requirements. The ground terminals are user-owned and operated and can be manportable, manpackable, or

Single channel SATCOM is used extensively in a variety of warfighter missions because of the flexibility and mobility provided.

vehicular mounted. Single channel SATCOM is used extensively in a variety of warfighter missions because of the flexibility and mobility provided. These advantages make single channel SATCOM especially useful in deployment operations.

The Army's single channel SATCOM mission is supported by communications transponders on a variety of space platforms. For the warfighter on the ground who is already burdened with large amounts of life support gear, the use of small, portable, single channel SATCOM terminals is very beneficial. The current Ultra High Frequency (UHF) SATCOM ground terminal is the AN/PSC-5 (Spitfire). It is being fielded now. Single channel SATCOM has limitations the foremost of which is limited capacity. Access to UHF SATCOM channels is tightly controlled and Army users have difficulty obtaining use of these resources. The implementation of Demand Assigned Multiple Access (DAMA) will increase the capacity of the UHF band and provide more access to UHF SATCOM channels for the warfighter. The AN/PSC-5 has DAMA capability. UHF signals can be easily detected and jammed by enemy forces and they are disrupted by natural scintillation. Current ground terminal limitations include a lack of communications on-the-move capability and difficulty in voice recognition over single channel SATCOM systems. Milstar will use the AN/PSC-11 (SCAMP) ground terminal for single channel SATCOM in the Extremely High Frequency (EHF) band.

The primary prupose of multichannel SATCOM is to extend the range of the area common user system.

USE OF MULTICHANNEL SATCOM

The primary purpose of multichannel SATCOM is to extend the range of the area common user system (ACUS). The Army multichannel architecture comprises two types of ground terminals: strategic and tactical terminals. Strategic terminals are fixed station heavy or medium terminals which provide the international satellite trunking for the Defense Information Systems Network (DISN). Tactical terminals are deployable and compatible with the ACUS to provide range extension links for critical nodes.

Some commercial SATCOM is used to support the Army multichannel mission. With the fielding of the AN/TSC-156 (STAR-T), a tri-band terminal using both military and commercial frequencies, this support will increase. However, the transmission of much of the multichannel traffic currently remains primarily via the Defense Satellite Communications System (DSCS) satellite constellation. DSCS provides worldwide strategic, operational, and tactical communications. The Department of Defense's newest satellite constellation, Milstar, uses the EHF band and will provide more security and mobility for the warfighter. The Milstar satellites are being launched and tested now. The multichannel ground terminal that uses Milstar is the AN/TSC-154 (SMART-T).

Standardized Tactical Entry Point (STEP) terminals are fixed station facilities that provide tactical DSCS terminals a means of entry into the DISN. A program to upgrade STEP sites for better support to the warfighter is ongoing. Global Broadcast Service is another tool for the warfighter that would provide a high speed, one-way flow of information tailored to a commander's mission requirements.

Commercial SATCOM is an alternative means of satisfying those communications requirements that cannot be satisfied suing military SATCOM.

COMMERCIAL SATCOM AUGMENTATION

The use of commercial SATCOM is evident throughout the Army. The flexibility and responsiveness that it

offers is critical for Army communications. Commercial SATCOM is an alternative means of satisfying those communications requirements that cannot be satisfied using military SATCOM. Used extensively by the Army now, commercial SATCOM has been tested successfully during recent conflicts around the world. International Maritime Satellite, Alascom, and International Telecommunications Satellite are a few examples of commercial SATCOM systems that the Army has relied upon for communications in the past, and Mobile Satellite Service systems are rapidly assuming a place in the Army SATCOM architecture.

There are distinct differences between commercial and military SATCOM. High costs associated with commercial SATCOM access and the often difficult necessity of getting host nation approvals are important considerations in the event of a conflict overseas. Commercial SATCOM is not as jam resistant as the military SATCOM systems. Access to commercial SATCOM, however, is usually less difficult than military SATCOM access, barring any host nation approval problems. The Army cannot satisfy its myriad communications requirements without a proper mix of both commercial and military SATCOM as shown in figures ES-1 and ES-2. Each has its place in the Army military satellite communications architecture.

PHASED SATCOM SUPPORT IN DEPLOYMENT OPERATIONS

Satellite communications provides the warfighting commander a reliable means to control his forces and conduct operations at various operational tempos. The flexibility of SATCOM allows different options to be considered based on the mission at hand. As a contingency mission progresses from the early planning phases to actual deployment, the communications requirements change. The communications plan is "phased" to support the tactical contingency plan.

Early in the deployment scenario, there is a heavy reliance on single and multichannel SATCOM. Redeployment of forces relies on communications and the transfer of information for anticipating requirements. The range and data capabilities of SATCOM systems facilitate responsive, efficient actions to meet evolving requirements.

Satellite communications provide the warfighting commander a reliable means to control his forces and conduct operations at various operational tempos.

Peace operations differ from traditional military missions in a number of fundamental ways. In peace operations there is a compression in the normal decisionmaking process. A civil-military dimension is characteristic of peace operations. There may be a seeming lack of unity of command or even purpose. This is accentuated by an ad hoc nature to the command, force, and sustainment arrangements. The SATCOM challenge is to provide the required command and control links that are reliable, fast, and flexible and which will assist in fortifying the position of military leadership in an unstable environment. SATCOM must become a seamless part of the overall communications network that will successfully function and interoperate in a complex and sensitive multinational mission.

USE OF SATCOM IN MISSILE DEFENSE

Satellites are the "eyes" for the defensive protection required against missile attacks directed toward U.S. forces. Satellites, as surveillance platforms, are expected to pinpoint launch locations, track the path of

Satellites are the "eyes" for the defensive protection required against missile attacks directed toward U.S. forces.

Figure ES-1 DoD SATCOM Space Services for the Warfighter

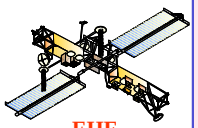
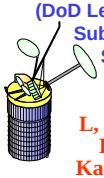
Satellites	Spectrum	Army Use	Access	Protection	Advantages	Limitations	Terminals
Milstar  EHF (+ V-Band & UHF)	-EHF: 44/21 GHz **(I.e., 43-45 GHz uplinks & 20.2-21.2 GHz downlinks)** -UHF: 225-400 MHz **• for AFSATCOM receive & transmit** **•for Fleet Broadcast transmit (crossbanded from EHF)** -V-Band: 60 GHz **for intersatellite crosslinks**	- Fully Protected Multichannel Communications for ECB MSE Range Extension, CNR Range Extension, SOF, & C2OTM	- Switched Communications from SMART-T Trans-portable Terminals and SCAMP Man-packable Terminals	- Anti-Jam, LPI/LPD, & Nuclear Hardened Satellites	- Satellite's On-Board Signal Processing Assures Protection - Multiple Spot & Agile Beams - Satellite Crosslinking	- Poor Foliage & Weather Penetration at EHF Frequencies - Cannot Do True "Eavesdropping" Nets as with Transponded UHF	 *SMART-T (AN/TSC-154)*  *Block I*  *Block II* *SCAMP (AN/PSC-11)*
DSCS  SHF X-Band (+ UHF)	-X-Band: 7.25-8.4 GHz **(6 Channels @ 50 to 85 MHz Bandwidth)** -AFSATCOM Single-Channel Transponder (SCT) for Emergency Action Message net: **1 UHF Channel & 1 X-Band Downlink (beginning in satellite #4)**	- Strategic Multi-channel Reachback - EAC-through-Brigade MSE Range Extension	- Frequency Division Multiple Access (FDMA) from Fixed and Transportable Large-Antenna Terminals, e.g. GMF or STAR-T	- Limited Anti-Jam	- Worldwide Coverage & Access to DISN for Warfighters - Good Weather Penetration at X-Band Frequencies	- Limited Capacity, but Increasing Imagery & Split-based Ops Requirements - Multiple Users in Same Channel Are Power-Limited at Satellite - Deployability of Trans-portable Terminals	 *STAR-T (AN/TSC-156)* *Legacy SHF Terminals (AN/TSC-85B/-93B)* 
GBS Phase II (Hosted on UFO)  K/Ka-Band	GBS Phase II will have communication packages hosted on UFO #8 - #10 providing three GBS channels: Ka-Band: 30 - 30.5 GHz (uplinks) K-Band: 20.2 - 21.2 GHz (downlinks)	- Battlefield Awareness Video & Data Broad-casts Down to Brigade Level	- Transponded - Data Injection from Terminals at Echelons Division & Above - Receive-Only User Terminals	- No Anti-Jam	- Large Bandwidth Enables High-Speed Video & Data to Users - Bypasses Low-Speed Tactical MSE Infra-structure	- Only One-Way Broadcasts to Users - Users Request Info Through Other Existing Reachback Systems	 *GBS Theater Injection Point (TIP) Terminal*  *GBS Receive Terminal*
UHF Follow-On (UFO)  UHF (+ SHF, EHF, & K/Ka-Band)	-UHF: 225-400 MHz **(17 Channels @ 25 KHz, & 21 Channels @ 5 KHz)** -X-Band: 7.25-8.4 GHz **(2 Channels for Fleet Broadcast, in UFO #2-#10)** -EHF: 44/21 GHz **(10 Channels in UFO #4-#9)** -Ka/K-Band: 30/20 GHz **(3 GBS Chan'ls, in UFO #8-#10)**	- Mobile Warfighter C2 Voice Nets - Intelligence Dissemination	- Transponded - Spitfire Terminals Use Demand Assigned Multiple Access (DAMA)	- No Anti-Jam	- Good Foliage Penetration at UHF Frequencies - Widebeam Trans-mission: No Autotracking Requirement	- Limited Number of Transponder Frequencies with Many Competing Users--DAMA Will Help	 *AN/PSC-5 Spitfire*  *Legacy UHF Terminals*
Commercial (DoD Leased & Subscribed Services)  L, C, Ku, K, & Ka-Bands	***-Inmarsat II***: **L-Band: 1.626-1.648 GHz (up) & 1.530- 1.546 GHz (down)** **C-Band: 6 / 4 GHz (feeder links)** ***-Wideband Satellites*: (such as Intelsat VI - VIII & GE-1/-2)** **C-Band: 3.9 - 6.26 GHz** **Ku-Band: 12 -14 GHz** ***- Mobile Satellite Service (MSS) Satellites*: Emerging MSS systems DoD might employ may use commercial UHF, L, S, C, K, or Ka-bands**	- Admin and Log C2 Via Inmarsat Satellites - Surge Supplement for Military SATCOM - Mobile Satellite Service (MSS) with Cellular-like Voice, Fax, & Limited Data	- Via Leased Commercial or Commercial-Capable Military Terminals	- No Protection - Does Support User Encryption	- Variety of Satellite Systems, Services, & Capacities Available Offering Convenient Access	- Must Pay for Service - Few Systems Strictly US-Controlled - Risk of Denied Foreign Landing Rights for US Military Use - Vulnerable to Sur-veillance	 ***Trojan SPIRIT II (AN/TSQ-190)***  ***Army TENCAP TSS***  ***STAR-T (AN/TSC-156)***  ***MSS User Phone (notional)***  ***Inmarsat Terminals***

Figure ES-2

Army SATCOM Mobile Terminals for the Warfighter

Terminal's Primary Frequency Band	Terminals	Spectrum	Description	Use	Program
EHF Milstar	**SMART-T** **AN/TSC-154** (Secure, Mobile, Anti-jam, Reliable Tactical Terminal)	- **Uplink:** V-Band (43 - 45 GHz) - **Downlink:** K-Band (20.2 - 21.2 GHz) with MIL-STD-1582C *processed* satellite comms payloads only	- Transportable, HMMWV mounted - Protected multichannel comms - Supports digital trunk groups up to T-1 (1.544 Mbps) - Supports multiple LDR and MDR voice or data users simultaneously	- Replaces legacy SHF terminals at Corps and Division - MSE range extension at ECB - Can serve as Alternative Milstar Network Management Terminal	- Fielding to Corps Signal Bdes, Division Signal Battalions, SOF, and EAC (USAREUR)* - PM Milsatcom - Manufacturer: Raytheon
	SCAMP **AN/PSC-11** Block I / Block II (Single Channel, Anti-jam, Manportable Terminal)	- **Uplink:** V-Band (43 - 45 GHz) - **Downlink:** K-Band (20.2 - 21.2 GHz) with MIL-STD-1582C *processed* satellite comms payloads only	- Block I: Manportable, 37 lbs Block II: Manpackable, 12 - 15 lbs - Up to four full-duplex voice or data LDR user channels at up to 2.4 kbps - Point-to-point network or broadcast - Interfaces combat net radio & MSE	- Range extension for combat net radio in supporting Army Operations and Special Operations - Provides critical, protected C2 comms between ECB headquarters and subordinate elements - Data-only MSE range extension	- Fielding to Corps and Division Warfighter Nets *to provide them a protected LDR capability* - PM Milsatcom - Manufacturer: Rockwell Collins
SHF DSCS	**STAR-T** **AN/TSC-156** (SHF Tri-band Range-extension Terminal)	- **Uplink:** X-Band (7.9 - 8.4 GHz) - **Downlink:** X-Band (7.25 - 7.75 GHz) + Commercial SHF/EHF (C, Ku, K, & Ka-Bands)	- Heavy HMMWV mounted - Multichannel comms via transponded channels only - Multiple T-1 (1.544 Mbps)/E-1 (2.088 Mbps) trunk groups - Integrated switch, up to 280 lines	- Provides rapidly deployable, high-capacity ACUS and MSE range extension at EAC - Extends MSE connectivity between EAC and ECB - Reachback for split-based opns via DISN entry through STEP terminals	- Fielding to Corps Signal Bdes, SOF, and EAC - PM Milsatcom - Manufacturer: Raytheon
Wideband Gapfiller System (2004) (X, Ku, K, & Ka-Bands) Advanced Wideband Satellite (2008)	**Legacy SHF Terminals** **AN/TSC-85B/-93B** AN/TSC-93B	- **Uplink:** X-Band (7.9 - 8.4 GHz) - **Downlink:** X-Band (7.25 - 7.75 GHz)	- 2 1/2- or 5-ton truck mounted - Multichannel comms via X-Band DSCS channels only - Full-duplex point-to-point or hub-spoke networks - Interface ACUS or MSE networks	- ACUS and MSE range extension at EAC, Corps, and Division - Reachback for split-based operations via DISN entry through STEP terminals	- Fielded at Corps Signal Bdes, Division Signal Battalions, SOF, and EAC - Army Inventory: AN/TSC-85B: 67 AN/TSC-93B: 106 - CECOM-managed items
Ka-Band GBS Phase II (Hosted on UFO)	**GBS Receive Terminal**	(In Phase II with UFO-hosted GBS) - **Downlink:** K-Band (20.2 - 21.2 GHz)	- Transportable, in transit cases - Receives single-channel 6 Mbps signal that contains multiple video & data streams - Unattended operation - LAN or DISN interconnection	- Receives continuous, high-speed information flow broadcast from EAC, Corps, & Division - Received information gives commanders & battlefield planners an in-depth understanding and common operating picture of battlefield	- Fielding to Corps & Divisions to Battalion level, SOF, and EAC - PM GBS Joint Program Office - Manufacturer: Raytheon
	GBS Theater Injection Point (TIP) Terminal	(In Phase II with UFO-hosted GBS) - **Uplink:** Ka-Band (30 - 31 GHz) - **Downlink:** K-Band (20.2 - 21.2 GHz)	- Transportable, HMMWV mounted - Uplink or receive multiple video & data streams, multiplexed into a single channel, at variable aggregate data rates up to nominal 6 Mbps - Unattended operation - LAN or DISN interconnection	- Uplinks GBS information streams to the satellite for reception by GBS receive terminals within the Theater	- Fielding one per Corps Signal Bde and one per Division Signal Battalion (Phase II + Phase III) - PM GBS Joint Program Office - Manufacturer: Raytheon
UHF Follow-On (UFO) **UHF**	**Legacy UHF Terminals** **AN/PSC-3, -7, -10 & URC Series**	-**Uplink and Downlink:** Military UHF Band (225 - 400 MHz) in 5-kHz and 25-kHz channels	- Manportable or vehicle mounted - Secure voice & data up to 2.4 kbps - Single channel half-duplex comms - Non-DAMA only - TSEC/KY-57 COMSEC compatible	- Command, control, & intell. secure voice and data networks at EAC, Corps, Division, and SOF - Secure enroute and early entry comms for deploying Corps, JTF, and ARFOR commanders	- Fielded to Corps & Div Warfighter Nets, Intell. Nets, Fire Support Nets, SOF, and EAC - Army Inventory: less than 3000 terminals still fielded - CECOM-managed items
	Spitfire UHF Terminal **AN/PSC-5**	-**Uplink and Downlink:** Military UHF Band (225 - 400 MHz) in 5-kHz and 25-kHz channels + VHF Band (30 - 225 MHz) for LOS	- Manpackable, light weight - Secure voice & data -- Non-DAMA: up to 2.4 kbps -- DAMA: up to 16 kbps - Single channel half-duplex comms - Embedded COMSEC: KY-58, KG-84, & ANDVT compatible	- Replacing most legacy UHF sets - Command, control, & intell. secure voice and data networks at EAC, Corps, Division, and SOF - Secure enroute and early entry comms for deploying Corps, JTF, and ARFOR commanders	- Fielding to Corps & Div Warfighter Nets, Intell. Nets, Fire Support Nets, SOF, and EAC - PM Milsatcom - Manufacturer: Raytheon

**** Fulfills CINC requirement to have a SMART-T at USAREUR as an Alternate Milstar Network Management Terminal***

Today's military intelligence mission is to provide timely, accurate, and relevant intelligence and electronic warfare support to tactical, operational, and strategic commanders across the continuum of military operations.

The TROJAN program is a dedicated communications system that supports intelligence dissemination and employs both commercial and military satellite communications systems.

incoming missiles, and predict the point of impact. As communications platforms, they also relay the information necessary to launch defensive actions within minutes. Intelligence is key to the missile defense mission. National satellite systems provide worldwide reconnaissance and surveillance of potential threat locations and early warning satellite systems alert ground forces when a launch occurs. At each point in the flight path of the hostile missile, satellites are involved in tracking or relaying information that will eventually destroy the threat missile before it reaches its intended destination.

SATCOM IS ESSENTIAL TO THE IEW MISSION

Intelligence is the key to the warfighting commander's understanding of the battlefield. Today's military intelligence mission is to provide timely, accurate, and relevant intelligence and electronic warfare support to tactical, operational, and strategic commanders across the continuum of military operations. The Intelligence and Electronic Warfare (IEW) architectures support a variety of missions using both military and commercial SATCOM. Some intelligence missions cannot be supported with area common user systems because of capacity and security limitations. This has led the Military Intelligence (MI) community to develop SATCOM systems designed to provide the timeliness, capacity, and security separation required for their unique missions.

The TROJAN program is a dedicated communications system that supports intelligence dissemination. TROJAN is not a common user system. The TROJAN system employs both commercial and military satellite communications systems. There are many components of the TROJAN system including switching systems and ground terminals. The TROJAN SPIRIT, a mobile terminal designed primarily as a near-term solution for MI-unique communications requirements at Echelons Above Corps and Echelons Corps and Below, performed exceptionally well in Desert Storm.

The intelligence "system of systems" concept is a flexible architecture of networks, procedures, organizations, and equipment focused on the commander's needs. It provides comprehensive support at all echelons and is always engaged. There are three areas of the IEW architecture that provide focused intelligence products to the commander: signals intelligence, human intelligence, and imagery intelligence. SATCOM is vital to each area.

The MI SATCOM architecture must permit intelligence units to receive and transmit imagery, bulk data bases, templates, and graphics. MI SATCOM systems enable direct dissemination of intelligence information through broadcast, point-to-point, and common user systems.

A force projection Army demands reliable multi-echeloned intelligence support. Clearly the intelligence effort cannot be achieved without satellite communications. The Army must continue to leverage technology and work towards obtaining long range communications systems that will meet the requirements of the intelligence community. SATCOM is a vital part of the IEW communications architecture at every echelon.

SATCOM IN ARMY SUPPORT OPERATIONS

Fundamental changes in the way the Army intends to fight and respond to global actions has caused it to become a force projection, rather than a forward-deployed, Army. A force

projection Army demands more from its supporting systems. Being Continental United States (CONUS)-based with operations being conducted worldwide requires support personnel to work faster, smarter, and with fewer resources. Taking advantage of current and developing technology is a must. SATCOM resources are essential to a force projection Army. Responsiveness and flexibility are critical when providing support to the warfighter. The three levels of war, strategic, operational, and tactical, all require support. These levels sometime appear to be blended but coordination between the three is important. Seamless connectivity provided by SATCOM ensures that planning and coordination occurs when and where needed.

Transportation operations rely on SATCOM for movement control, in-transit visibility of personnel and supplies, and planning and coordinating the commitment of transportation assets in response to command directives for the mission. The Combat Health Support system provides medical care for the soldier from the forward edge of the battle area back to the CONUS sustainment base. SATCOM assets on the battlefield will now include the AN/PSC-5 (Spitfire) as well as some commercial SATCOM handsets. Telemedicine is a new technology that the medical field is embracing which will have a huge impact on the Army SATCOM architecture. Personnel readiness SATCOM requirements include the transmission of large databases necessary to the tracking of force strength and locations as well as the prediction of future allocations of personnel based upon mission.

Although the combat support and combat service support areas are not usually high priority for SATCOM resource allocation, their mission is critical. Providing support to the warfighter as he engages in direct combat with enemy forces is essential to mission success and to the very survival of the soldier.

THE FUTURE OF ARMY SATCOM

The Army's vision for future SATCOM systems foresees advanced telecommunications services using multiband satellite constellations, superior antenna and ground terminal technologies extending into a worldwide terrestrial fiber-optic network in a clean, seamless manner. These systems supporting the warfighter must come on line without any degradation or gap in the quantity or quality of required communications. Backward compatibility should ensure a smooth transition between new and legacy systems. Commercial SATCOM systems will be heavily used when possible to take advantage of the rapid developments in technology.

Although the combat support and combat service support areas are not usually high priority for SATCOM resource allocation, their mission is critical.

Future ground terminals will be smaller and lighter, with embedded security features. They will be handheld or smaller and much easier for the future warfighter to use and store. They should be able to interface with all battlefield functional areas and be multi-purpose and multiband capable. A terminal of this type would significantly increase the mobility of the warfighter and add to the chances of his survival.

The future vision of Army SATCOM is based upon today's knowledge, technology, and capabilities as well as what can be foreseen of these with reasonable high confidence.

This future vision is only a guess - an estimate of how SATCOM support to the warfighter could look. Unforeseen changes in technology, funding, requirements, and objectives understandably may alter this picture. Nevertheless, this future vision of the Army's use of SATCOM is based upon today's knowledge, technology, and capabilities as well as what can be foreseen of these with reasonably high confidence.

Above all, the needs and requirements of the warfighter must remain foremost in the concerns of the designers, builders, and planners of SATCOM systems that must be used and carried by the soldier. Depending upon the SATCOM equipment and associated training provided, the Soldier on the battlefield is the one who will ultimately succeed or pay the price for failure.

ACUS
Area Common User System

CONUS
Continental United States

DAMA
Demand Assigned Multiple Access

DISN
Defense Information Systems Network

DSCS
Defense Satellite Communications System

EHF
Extremely High Frequency

IEW
Intelligence and Electronic Warfare

MI
Military Intelligence

SATCOM
Satellite Communications

STEP
Standardized Tactical Entry Point

UHF
Ultra High Frequency